جامعة صنعاء

كلية الطب والعلوم الصحية

دفعة 37 طب بشري

رؤساء اللجنة العلمية دفعة 37B :

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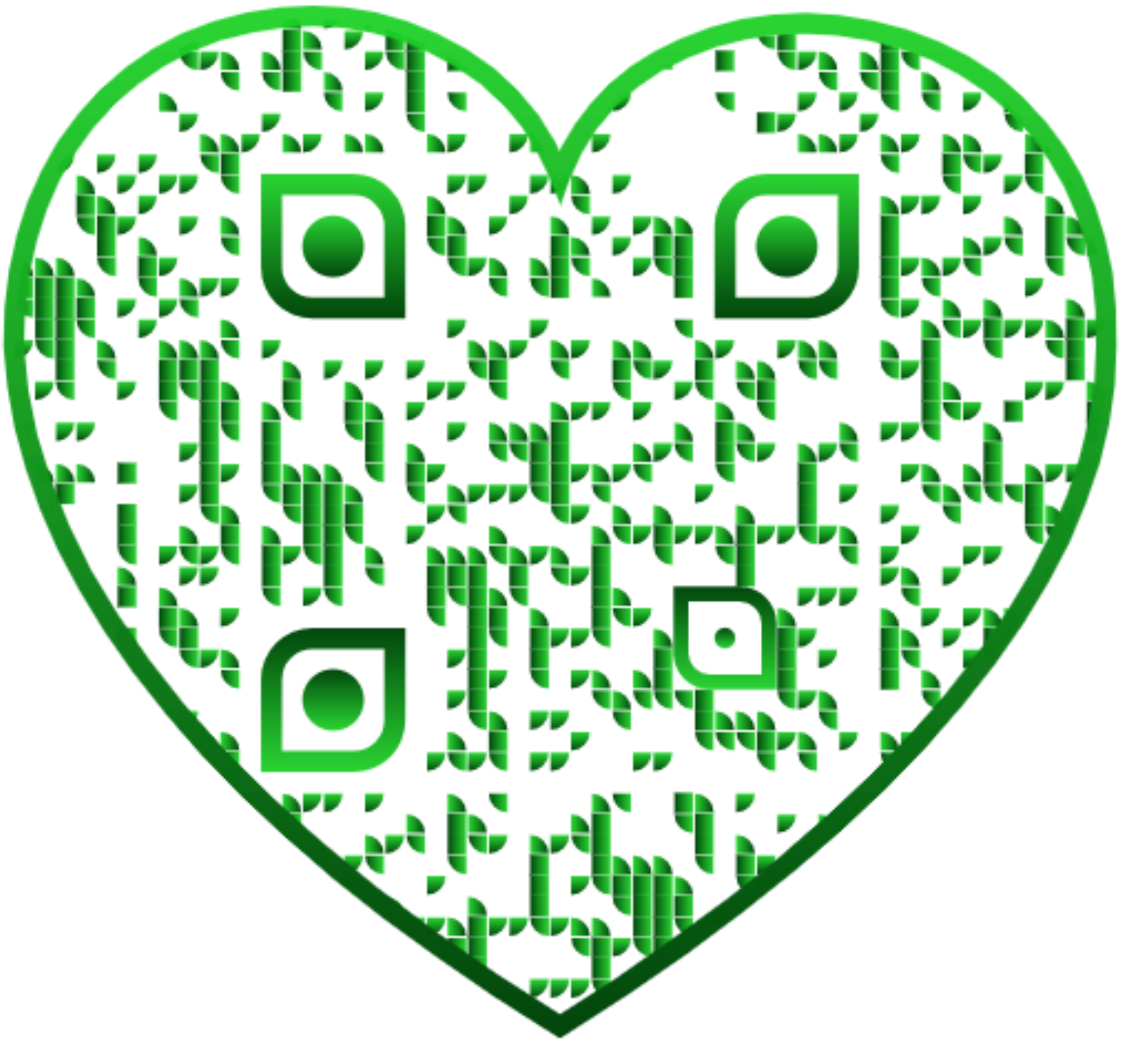

- أسماء الأعضاء:-
  - ✓ آية محمد الشاوش
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  - ✓ زكريا علي الكحلاني
  - ✓ زورة محمد البواب
  - ✓ نور احمد الزبيدي

النقص فينا باقي، والكمال بالمشاركة والتعاون.

في حال وجود أي خطأ او تعديل، يرجى ارساله إلى بوت اللجنة العلمية:-

@scientificGroup37Bbot

PYDERMA & BACTERIAL INFECTIONS

Prepared by :

DR.Niveen Almaisary

PYODERMA

- means “pus in the skin
- any condition that results in the accumulation of neutrophilic exudate can be termed a pyoderma
- Most commonly, however, pyoderma refers to bacterial infections of the skin
- Pyodermas are caused mostly by **Staphylococcus aureus** and **Streptococcus** pyogenes
- . Most pyodermas are more frequent during the summer and rainy seasons.

Notes:

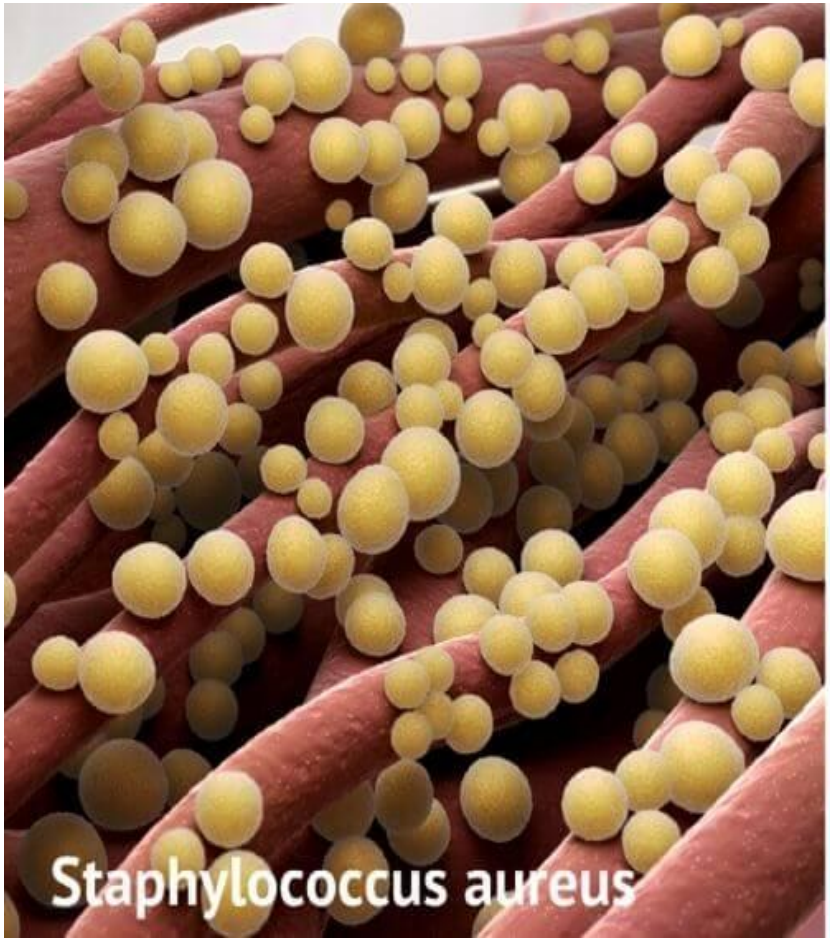
Pyoderma:-bacterial infection means pus in skin.
The first line of defense is macrophage and neutrophils
Staph. Aureus is a normal flora of skin so the incidence with it is mild.

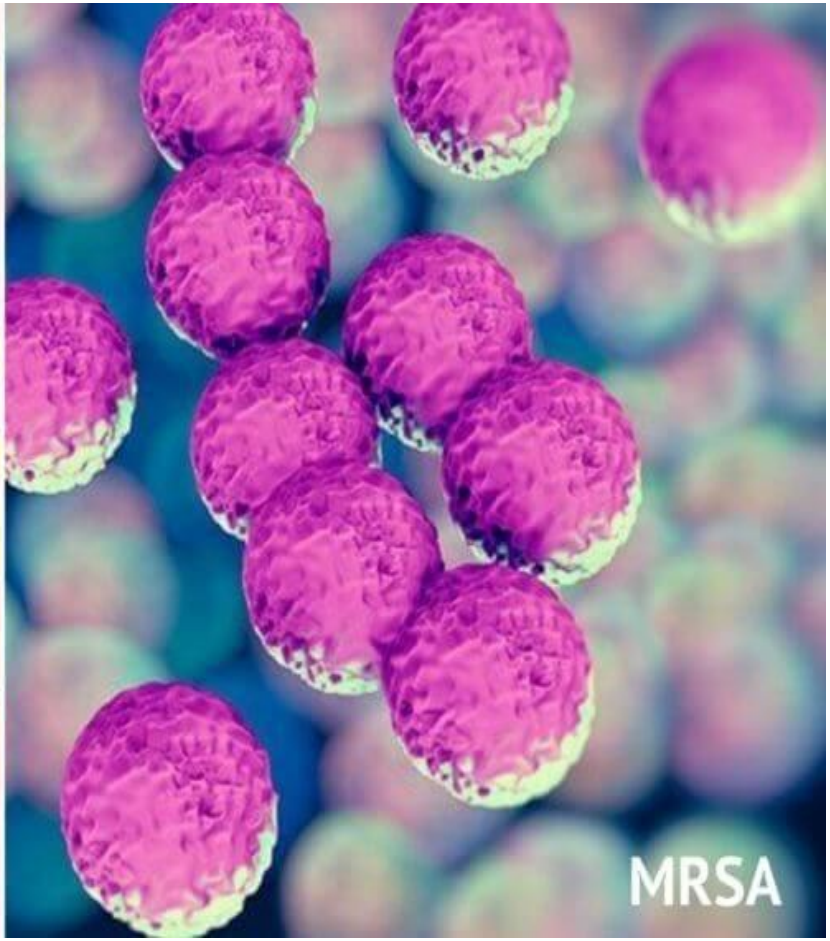
STAPHYLOCOCCUS AUREUS

- The Gram-positive cocci bacterium Staphylococcus aureus is the main pathogenic species that causes skin infection).
- Up to 10–20% of the general population are persistent carriers of S. aureus
- Skin infections with S. aureus are more common in patients with breaks in the skin such as scratches, wounds, and ulcers,

Note:

We know that the bacteria are gram- negative or positives from the stain (gram staining) If they are red they mean that the bacteria is negative. Or blue this means that the bacteria are positive.


Staphylococcus aureus


MRSA

INVOLVEMENT OF S. AUREUS IN CUTANEOUS DISEASE

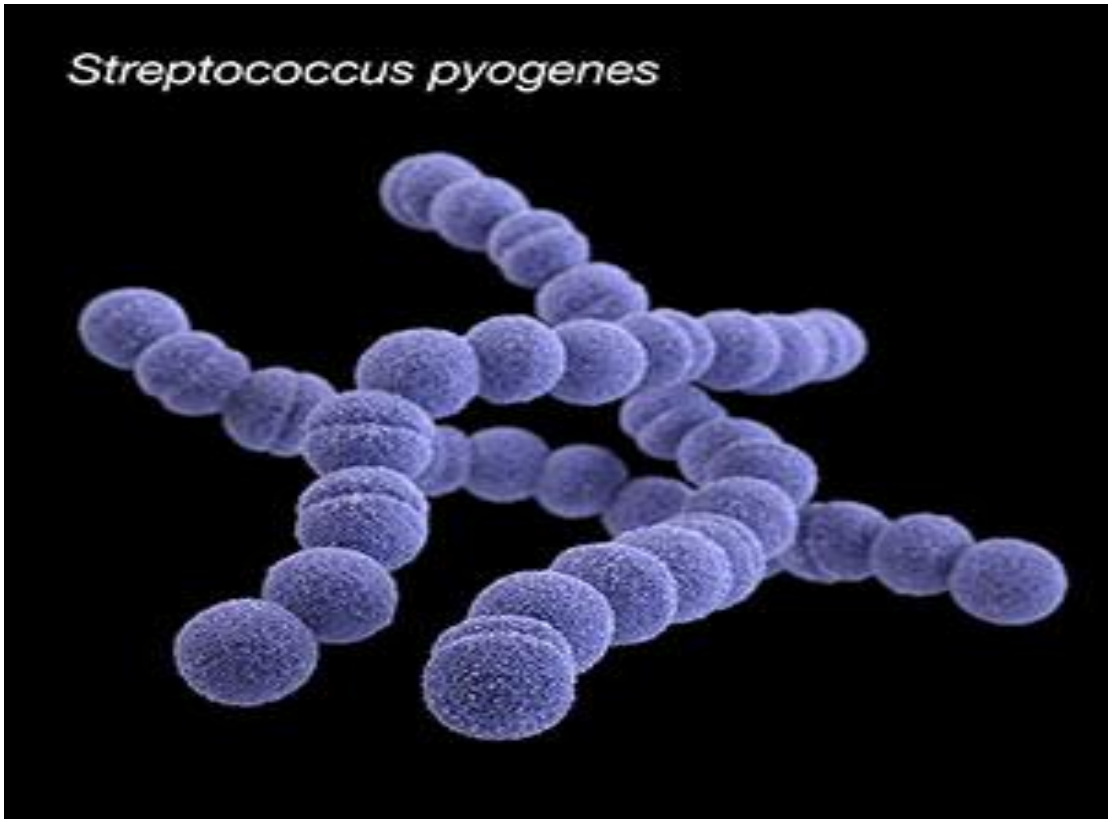
- **Direct infection of skin and adjacent tissues**
  - Impetigo
  - Ecthyma
  - Folliculitis
  - Furunculosis
  - Carbuncle •
  - Sycosis •
  - Occasionally in cellulitis
- **Others Secondary infection :**
  - Eczema, infestations, ulcers, etc

- **Cutaneous disease due to effect of bacterial toxin:**
  - Staphylococcal scalded skin syndrome
  - Toxic shock syndrome • Staphylococcal scarlatina
  - Recurrent toxin-mediated perineal erythema

STREPTOCOCCI

- Gram-positive catalase-negative cocci, which are nearly all facultative anaerobes. Streptococcal bacteria are classified into group α, β or γ according to their ability to haemolyse red blood cells:
- The major streptococcal pathogens in humans belong to **group A streptococcus** (GAS), collectively referred to as Streptococcus pyogenes.

Note: the most kin infections are by streptococcal bacteria group A.


Streptococcus pyogenes

STREPTOCOCCI

Direct infections of skin or subcutaneous tissue

- impetigo
- • Ecthyma
- Erysipelas
- Cellulitis
- Vulvovaginitis
- Perianal infection
- Streptococcal ulcers
- Blistering distal dactylitis Necrotising fasciitis
- Others

Tissue damage from circulating toxin

- Scarlet fever
- Toxic-shock-like syndrome
- Recurrent toxin-mediated perineal erythema

INFECTION IS USUALLY PREDISPOSED BY DIFFERENT FACTORS MAINLY:

- General diseases lowering the general defense mechanisms.
- Malnutrition
- Mild trauma to skin
- Insect bites
- Abraded skin lesions
- Poor hygiene
- Impetigo contagiosa may complicate certain skin diseases such as pediculosis, scabies and eczematous eruptions.

BACTERIAL INFECTION OF SKIN
LAB. DIAGNOSIS

- Specimen collection.
- Skin biopsy
- Skin swab
- Pus swab
- Nasal / skin swab

IMPETIGO CONTAGIOSA

- The most common skin infection in children.
- Impetigo is a **contagious superficial bacterial skin infection caused by staphylococci and to a lesser extent by streptococci pyogenes**.
- Either bullous or non bullous
- Initially a vesicular infection that rapidly evolves into pustules that ruputrue, with dried discharage forming **honey-colored crust** on an erythematous base

Note: (contagiosa=Contagious)

The impetigo contagiosa is painless

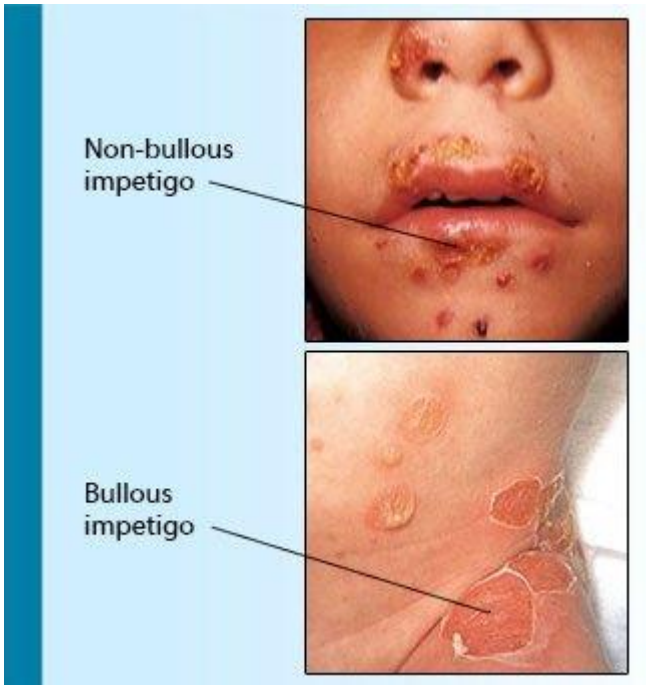
Type of Impetigo:

--Non-bullous impetigo-(crusted) more common

-bullous- (large blisters)

-acthyma (with cars)

IMPETIGO



- **Sites** : exposed parts eg,face,extermities,scalp .
- The lesions have little or no surrounding erythema. Itching and scratching leads to autoinoculation on any body surface.
- Most cases heal without scar mainly.
- **Complications:**
- Post –streptococcal acute GN

ECTHYMA

- Ecthyma has many feartures similar to impetigo; (ulcerative impetigo)
- The lesions begins as vesicles or vesiculopustules with erythematous base.
- The process extends more deeply penetrating through the epidermis to produce a shallow ulcer.
- occurs most commonly on the legs & thighs
- - heal with scarring

ECTHYMA

FOLLICULITIS

- Inflammatory diseases of the hair follicles opening which may be infectious or non infectious The lesions may range from tiny white-topped pustules to large, yellow pus-filled lesions.
- may lead to furunculosis, and if left untreated, it may lead to cellulitis (a more extensive inflammation of the skin).
- Absces formation is the major complication of bacterial folliculitis.
- **Therapy**: topical antibiotics and/or oral antibiotics

Note:

Folliculitis- bacterial folliculitis with itching can cause abscess

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CLINICAL VARIENT

Superfacial folliculitis ,bockharts impetigo

- Adome –shaped pustule at the orifice of a hair follicle that heals within 7-10 days
- Caused by staph.aureus and effects mainly extremities &scalp
- Topical steroid are acommon predisposing factor.

Sycosis vulgaris

- Recurrent red follicular papules or pustules on the hair ,usually remain discrete over the beard or upper lip,but may coalesce to produce rasied plaques studded with pustules

pseduofolliculitis

result from penetration into the skin of skin of sharp tips of shaved hairs

- **A furuncle**
  - is an acute, round, firm, tender, circumscribed, perifollicular staphylococcal pyoderma that usually ends in central suppuration.
- **A carbuncle**
  - is two or more confluent furuncles with separate heads. Some lesions disappear before rupture, but most undergo central necrosis and rupture through the skin, discharging firm, purulent, necrotic debris.
  - Common sites include the nape, axilla, and buttocks, but lesions may occur anywhere.

- **Treatment** consists of warm compresses and oral antibiotics. Surgical drainage may be required

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ERYSIPELAS

- is an acute beta-hemolytic group A streptococcal infection of the skin involving the superficial dermal lymphatics that causes marked swelling.
- - is characterized by local redness, heat, swelling, and a highly characteristic raised, well-defined border The legs and face are the most frequently affected sites.
- The onset can be preceded by prodromal symptoms of malaise with or without chills, fever, headache, vomiting, and joint pain.
- When legs are affected, edema and bullous lesions are often present.

ERYSIPELAS

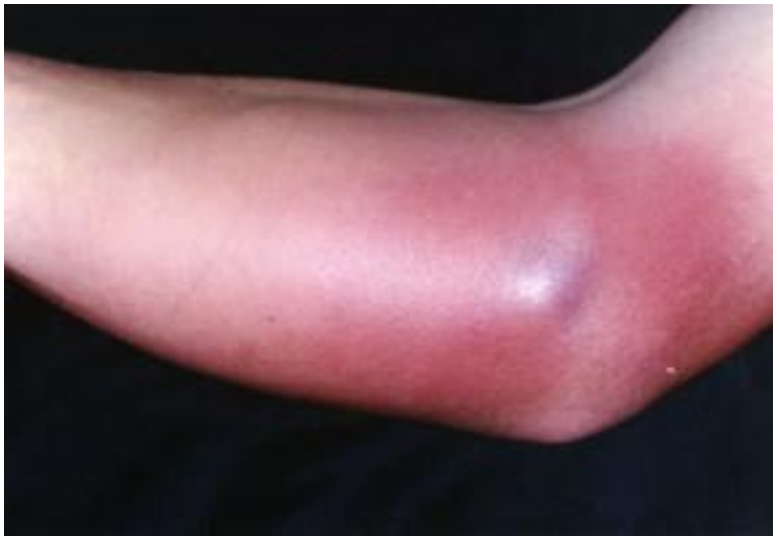
Predisposing medical or postsurgical conditions, such as skin ulcers or eczematous lesions, chronic fungal infections, fissures, local trauma, venous or lymphatic compromise, and obesity are present in many patients who develop erysipelas

CELLULITIS

- Cellulitis is acute bacterial infection of the skin and subcutaneous tissue most often caused by streptococci or staphylococci
- Symptoms and signs: **pain, rapidly spreading erythema, and edema; fever may occur, and regional lymph nodes may enlarge**.
- Cellulitis infections begin when bacteria enter cracks in the skin (through scrapes, cuts, burns, insect bites, surgical incisions, or intravenous needles

CELLULITIS

- Cellulitis The skin is hot, red, and edematous, often with surface appearance resembling the skin of an orange (peau d'orange).
- The borders are usually indistinct
- Cellulitis is treated with either oral or intravenous antibiotics



Thank
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